Factors associated with the lifestyle of high school students from public schools

Fatores associados ao estilo de vida de estudantes do ensino médio de escolas públicas

Factores vinculados al estilo de vida de estudiantes del secundario de escuelas públicas

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ABSTRACT

Objective: It was aimed to assess the factors associated with the lifestyle of high school students from public schools.
Method: Cross-sectional and analytical study, in Montes Claros, Minas Gerais. 819 high school students from state public schools participated in 2016/2017. A questionnaire was used that included sociodemographic, school variables, self-perception of quality of life, depressive symptoms, Internet addiction and lifestyle. The Chances Ratio was used, through Logistic Regression.
Results: Among the participants, 92.2% had a desirable lifestyle, with a mean score of 70.75 points ($\pm$11.60). In the multiple analysis, the variables self-perception of quality of life (p= 0.005), depressive symptoms (p<0.001) and Internet addiction (p=0.007) remained associated with lifestyle.
Conclusion: The improvement of the quality of life, emotional support and education regarding the adequate use of the Internet should be addressed by the nurse in actions to promote health in the school environment.
Keywords: Life style. Students. Student health. Nursing. Public health.

RESUMO

Objetivo: Avaliar os fatores associados ao estilo de vida de estudantes do ensino médio de escolas públicas.
Método: Estudo transversal e analítico, realizado em Montes Claros, Minas Gerais. Participaram 819 estudantes do ensino médio de escolas públicas estaduais, em 2016/2017. Utilizou-se um questionário que contemplava variáveis sociodemográficas, escolares, autopercepção da qualidade de vida, sintomas depressivos, adicção em Internet e estilo de vida. Utilizou-se Razão de Chances, mediante a Regressão Logística.
Resultados: Entre os participantes, 92,2% possuíam estilo de vida desejável, com escore médio de 70,75 pontos ($\pm$11,60). Na análise múltipla, permaneceram associadas ao estilo de vida as variáveis autopercepção da qualidade de vida (p=0,005), sintomas depressivos (p<0,001) e adicção em Internet (p=0,007).
Conclusão: A melhoria da qualidade de vida, apoio emocional e educação quanto ao uso adequado da Internet devem ser abordados pelo enfermeiro nas ações de promoção da saúde no ambiente escolar.
Palavras-chave: Estilo de vida. Estudantes. Saúde do estudante. Enfermagem. Saúde pública.

RESUMEN

Objetivo: Evaluar los factores vinculados al estilo de vida de estudiantes del secundario de escuelas públicas.
Método: Estudio transversal, analítico, realizado en Montes Claros, Minas Gerais. Participaron 819 estudiantes del secundario de escuelas públicas en 2016/2017. Se utilizó una encuesta con variables sociodemográficas, escolares, autopercepción de la calidad de vida, síntomas depresivos, adicción a Internet y estilo de vida. Se utilizó la Razón de Chances, mediante la Regresión Logística.
Resultados: El 92,2% poseía un estilo de vida deseable, con una puntuación media de 70,75 puntos ($\pm$11,60). Se asociaron al estilo de vida: autopercepción de la calidad de vida (p= 0,005), síntomas depresivos (p<0,001), y adicción a Internet (p=0,007).
Conclusión: La mejora de la calidad de vida, el apoyo emocional y la educación para un debido uso de Internet deben ser abordados por el enfermero en las acciones de promoción de la salud en el ambiente escolar.
Palabras clave: Estilo de vida. Estudiantes. Salud del estudiante. Enfermería. Salud pública.

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■ INTRODUCTION

Lifestyle (EV) constitutes patterns of behavior that reflect attitudes, values, and opportunities in individuals' lives. Healthy EV is characterized by behaviors related to the practice of physical activity, proper eating, non-smoking, non-smoking, satisfactory family and friends relationships, safe sex, stress management, positive outlook on life and wearing a safety belt. Such activities contribute to the promotion of health, prevention of diseases and diseases, and to the attainment of quality of life and the maintenance of well-being[1-2].

The unhealthy EV involves practices such as tobacco consumption, alcohol intake, sedentary lifestyle, high-fat and low-fiber diet and low fiber, non-stress control and unprotected sex. These habits may contribute to the occurrence of chronic noncommunicable diseases (CNCD) such as overweight and obesity, hypertension, diabetes, heart disease and some types of cancers. This pattern of life, in the last decades, has influenced the increase of morbimortality[3].

Adolescents and young people have presented habits and patterns related to unhealthy lifestyle such as sedentarism, intake of fats, sugars and salt, consumption of tobacco, alcohol and other drugs[3-5], with an impact on their health and quality of life. In this period of the life cycle, there is a fixation of values, attitudes and behaviors that can lead to the consolidation of the individual's life style and endure for life[5]. Additionally, this public rarely attends health services, and, therefore, the school is a privileged space for actions to promote and protect health. In this perspective, the actions developed by the Family Health Strategy to assist this population should prioritize their social space[6].

In this sense, the Health in School Program (PSE) contributes to consolidate health promotion strategies in the school setting from the point of view of integral care(6). Through the program, nurses play a leading role in planning and organizing activities and contribute to strengthening the relationship between health and schooling, as well as health monitoring. Therefore, there is a need to overcome a technical, normative and biological performance in order to establish behavioral changes and awareness of healthy life habits[6-7].

Despite the advances, the health actions carried out in the school take place in an unspecific way. The intervention directed to the needs of the students can contribute to better school health indexes[6-7]. In this sense, it is important to assess the style of this population globally[8], since the studies generally present the analysis of the components of the lifestyle alone, including in relation to the schooler health[3,9]. In addition, the emotional and Internet related

aspects are little explored in this area. Regional data surveys should be carried out considering the economic, social and cultural differences in the country in order to guide health promotion and protection strategies.

Given this context, it was outlined as a guiding question of this research: What factors interfere in the lifestyle of high school students? The present study aims to evaluate the factors associated with the lifestyle of high school students of public schools.

■ METHODOLOGY

This is a cross-sectional, analytical and quantitative approach. The population was composed of high school students from state public schools in Montes Claros, northern Minas Gerais. In this municipality, the state network serves, in large part, the population of high school students.

 The sample size was established in order to estimate the prevalence of 0.50. A 95% confidence interval and a precision level of 5.0% were adopted. The effect of the drawing was corrected, adopting *deff* equal to 2.0. An increase of 20% was also established to compensate for possible non-responses and losses. It was estimated that at least 748 high school students participated.

The sample selection was of probabilistic type by conglomerates in two stages. In the first stage, by probability proportional to size, the schools were drawn. In the second stage, the random lottery was conducted by simple random sampling. The inclusion criterion for the sample selection was to be a student regularly enrolled in the institution. Those who presented some cognitive difficulty were excluded.

Data collection was carried out in the second half of 2016 and in the first half of 2017 by previously trained researchers and academics. A questionnaire was used that included socio-demographic variables (sex, age, marital status, socioeconomic class and work), schooling (series and study shift), self-perception of quality of life, depressive symptoms, addiction in Internet and life style.

For the evaluation of depressive symptoms, the Beck Depression Inventory, composed of 21 items on a Likert scale of five points, encompassing behavioral aspects specific to depressive disorders. The classification is according to the following pattern: minimum (0-13 points), mild (14-19 points), moderate (20-28 points) or severe (29-63 points). The cutoff point was established for identifying clinically significant depressive symptoms for those who scored mild[10].

Addiction in Internet was evaluated using the validated instrument *Internet Addiction Test* (IAT), composed of 20

items classified in a Likert scale from 1 to 5, which score can range from 20 to 100 points. Individuals are classified as median (20-39 points), problem user (40-69 points), and user with addiction (70-100 points)[11].

To evaluate the students' lifestyle, the validated questionnaire "Fantastic Lifestyle" was applied, which considers the behavior of the individuals in the last months. The instrument comprises 25 questions (23 on a Likert scale from 0 to 4 points and two dichotomous questions – no (0) and yes (4) points, distributed in nine domains. The sum of all the points allows a total score that classifies the individuals into five categories: excellent (85-100 points); very good (70-84 points); good (55-69 points); regular (35-54 points); and needs improvement (0-34 points)[12].

The data were analyzed by means of Statistical Package for the Social Sciences (SPSS®), version 18.0, for Windows. For characterization of the sample, descriptive analyzes of the variables with the presentation of mean and standard deviation, as well as absolute (n) and relative (%) frequencies were performed. The normality and homogeneity of the data were verified using the Kolmogorov-Smirnov tests. For the analysis of association, the following variables were categorized: desirable lifestyle (excellent, very good and good) and needs improvement (regular and needs improvement), positive self-perception of quality of life (very good / good / not bad and neither good) and negative (very bad / bad), presence (mild, moderate and severe) and absence (minimal) of depressive symptoms, addicts (users with addiction in Internet) and non-addicted (median and problematic users). The bivariate analyzes were performed using the Chi-square test, in which the independent variables associated with lifestyle up to the level of significance of 20% ($p \le 0.20$) were inserted in the multiple analysis. In the final adjusted model, estimated through Logistic Regression, the variables that presented a level of significance of up to 5% ($p \le 0.05$) were maintained. Gross and adjusted odds ratios were estimated (*odds ratio*), with their respective 95% confidence intervals. The study was approved by the Research Ethics Committee, according to Resolution 466/12 of the National Health Council, under Opinion No. 1,520,173 and CAAE No. 54414416.3.0000.5146. All students signed the consent form for the research and provided the free and informed consent form signed by their parents.

■ RESULTS

A total of 819 students participated in this study, 54% female and with a mean age of 16.76 years (± 1.27). Most of the respondents studied in the morning shift (92.9%), were unmarried (95.6%) and belonged to economic classes B (43.0%) and C (33.8%). As for the series, it was observed that 40.2% attended the first year of high school, 30.4% in the second year and 29.3% in the third year.

A mean score of 70.75 points (± 11.60) was recorded, with 10.6% being classified as having an excellent lifestyle, 44.3% being very good, 33.7% good, 7.2% regular and 0.6% need improvement. The descriptive measures of the dimensions of the Fantastic Lifestyle questionnaire (mean, minimum, maximum, and standard deviation) are presented in Table 1. It was observed that the lowest means were in the physical activity and nutrition domains.

Table 1 - Descriptive statistics of the Fantastic Lifestyle of high school students from public schools. Montes Claros – MG - 2017. (n=819)

Domain	Instrument score range	Average	Min-Max	Standard Deviation
Family and friends	0-8	5.52	0-8	2.27
Physical activity	0-8	3.60	0-8	2.59
Nutrition	0-12	6.49	0-12	2.61
Cigars and drugs	0-16	14.21	2-16	2.11
Alcohol	0-12	10.78	0-12	2.11
Sleep, seatbelt, stress and safe sex	0-20	13.77	0-20	3.82
Type of behavior	0-8	4.66	0-8	1.98
Introspection	0-12	8.19	0-12	2.92
Work	0-4	3.40	0-4	1.14

Source: Research data, 2017.
*Min: minimum value; Max: maximum value

When analyzing the association of the students' lifestyle with the study variables, it was observed that age (p = 0.109), study shift (p=0.010), self-perception of quality of life (p<0.001), depressive symptoms (p<0.001) and addiction in Internet (p<0.001) were significant at the 20% level (Table 2).

Table 3 presents the results of the adjusted model of the lifestyle of public-school students.

The students' lifestyle was associated with the following variables: self-perception of quality of life (p=0.005), depressive symptoms (p<0.001) and addiction in Internet (p=0.007). Students with negative self-perception of quality of life, with depressive symptoms and with addiction in Internet have 2.39, 5.10 and 2.59 times the chance to present a lifestyle that needs improvement, respectively.

Table 2 - Bivariate analysis of the Fantastic Lifestyle of high school students from public schools. Montes Claros – MG, 2017. (n=819)

Variables	LS desired		LS needs improvement		P value*	ORgross
	N	%	N	%		
Gender					0.309	
Female	383	52.8	38	59.4		1
Male	343	47.2	26	40.6		1.309
Age					0.109	
15 to 17 years old	553	76.2	43	67.2		1
18 years or more	173	23.8	21	32.8		1.561
Social economic class					0.478	
Class A	120	16.8	07	11.3		1
Class B	312	43.6	27	43.5		1.484
Class C, D or E	284	39.7	28	45.2		1.690
Grade					0.563	
1st year	242	40.2	21	33.3		1
2nd year	218	30	21	33.3		1.339
3rd year	216	29.8	21	33.3		1.352
Study time					0.010	
Daytime	684	94.2	55	85.9		1
Nighttime	42	5.8	09	14.1		2.665
Life Style Self Perception					<0.001	
Positive	601	82.9	35	54.7		1
Negative	124	17.1	29	45.3		4.016
Depressive Symptoms					<0.001	
Absence	606	83.5	26	40.6		1
Presence	120	16.5	38	59.4		7.381
Addiction in Internet					<0.001	
Non-addicted	644	91.1	43	72.9		1
Addicted	63	8.9	16	27.1		3.804

Source: Research data, 2017.
(OR= Odds Ratio)
*Logistic regression

Table 3 - Adjusted model of the Fantastic Lifestyle of high school students from public schools. Montes Claros – MG, 2017. (n=819)

Variables	ORadjusted	(IC 95%)	P-value*
Life Style Self Perception			0.005
Positive	1		
Negative	2.39	(1.30-4.38)	
Depressive Symptoms			<0.001
Absence	1		
Presence	5.10	(2.79-9.32)	
Addiction in Internet			0.007
Non-addicted	1		
Addicted	2.59	(1.29-5.18)	

Source: Research data, 2017.
(OR= Odds Ratio).
*Logistic regression

■ DISCUSSION

This study analyzed the lifestyle of high school students from public schools in the city of Montes Claros – MG. Lifestyle influences health promotion and decreases mortality in all causes[13]. Life habits are still important modifiable risk factors for the reduction of diseases from the earliest ages[14] and may imply better health conditions during life[8-9].

The school is a space for action on the social determinants of health, expressing the principles of intersectionality, equity, social justice, as well as individual and collective empowerment, which underpin the field of health promotion[6]. The analysis of the students' lifestyle contributes to support health promotion and protection actions in this space, considering health in a comprehensive way.

Therefore, educational institutions should be structured to promote healthy life habits, which include the physical structure, the training of teachers, the carrying out of educational activities in the school community, the nutritional orientation, the relationships and the living among the members and sustainable management of the environment. For the success of these actions, it is necessary to involve organizational, environmental and educational dimensions and the participation of coordinators, teachers, parents or guardians, students and health professionals, especially nurses[6-7].

In a study of 812 schoolchildren aged 10 to 15 years old from public and private institutions in Colombia, it was observed that the classification of the lifestyle was adequate[8]. In Santa Maria – RS, in the evaluation of 420 public high school students, 93.8% had a lifestyle classification above good[15], according to the present study. Healthy lifestyle

involves behaviors and habits that influence health. Therefore, the student's lifestyle should be constantly monitored by the nurse in Primary Health Care[16].

In this study, a general low average was observed for the domains of physical activity and nutrition, which compose the students' lifestyle, as observed in a previous study[8]. Behaviors related to these domains analyzed in an individualized way were observed in an evaluation of 930 students aged 14 to 19 enrolled in high school in São José – SC, in which 92.1% of those surveyed were physically unfit and 84.1% used to drink soda[4].

Sedentary individuals with inadequate food consumption are more likely to develop CNCDs and, therefore, are at a higher risk of morbidity and mortality[3,14]. The regular practice of physical activity[5] and adequate food intake[3] increase the likelihood of satisfactory lifestyle behavior. Thus, it is important to use strategies such as the adaptation of physical environments to support physical activity, insertion of physical activity practices in school countermeasures, monitoring of nutritional status and restriction of processed and ultra processed foods offered in school canteens for a healthy lifestyle[17].

The lifestyle presented associations with the variables self-perception of quality of life, depressive symptoms and addiction in Internet. Participants' negative self-perception about quality of life was related to the lifestyle that needs improvement, with a 2.35-fold chance when compared to adolescents with positive self-perception of quality of life. Lifestyle components such as social interaction, physical activity, nutrition, cigarette use, drugs and alcohol, stress and sexuality are associated with quality of life[18].

The presence of depressive symptoms was statistically associated with the lifestyle that needs improvement, with a odds ratio of 5.09. The association between the components of EV with the symptoms of depression was also verified among the high school public of Japanese schools[19]. At this stage of life, depressive symptoms may have a chronic course and affect various functions, as well as cause significant psychosocial damage. These results highlight the need to reinforce the nurses' performance with this public, especially regarding the emotional aspects, which may be undervalued. In this sense, investments in protective actions in the area of mental health in the school may result in benefits for the adoption of a healthy lifestyle.

Addiction in Internet was associated with lifestyle, with addicted students having 2.59 times the chance of presenting an unhealthy lifestyle. The use of Internet has increased among adolescents and young people, which can be justified by the need for self-affirmation, which also happens in a virtual way[20]. The uncontrolled and (un)adaptive use of this technological tool can become harmful, with repercussions on the patterns of behavior. On the other hand, it must be considered that the conscious use of Internet can be an ally in the promotion of health, by enabling access to health information. Therefore, there is a need for certification measures, regulation and quality control of the information available. In addition, it is critical that nurses educate students during school health actions about the effects of addiction on Internet and sensitize its rational use.

The interaction between the school and the health service is essential for the promotion and protection of health, which is made effective by the nurses. This professional has a role in eliciting and stimulating the critical and reflective awareness of the students in their responsibility in the care of their health. Therefore, policies and programs related to the adoption of a healthy lifestyle in school need to be valued and consolidated. Therefore, it is necessary to consider the specificities of the student phase and to emphasize the actions focused on the quality of life, the emotional aspects and the proper use of the Internet.

CONCLUSION

The high school students of public schools in Montes Claros – MG, for the most part, presented a desirable lifestyle. Among participants who presented a lifestyle that needs improvement, there was a significant association with self-perception of negative life quality, presence of depression symptoms and addiction in Internet. The results show the importance of the nurse professional incorporating health promotion actions in the school environment - aspects related to the improvement of quality of life, emotional support and education regarding the adequate use of Internet.

Nurses, given their role in the actions carried out in the school environment, play a fundamental role in changing this reality, through the building of bonds and support in schools and within the Family Health Strategy. Therefore, educational and student assistance actions can contribute to integral health, from the awareness of themselves and their choices.

Because it is an investigation using a self-report questionnaire, these findings need to be analyzed considering this possible limitation, which may have generated minimization or concealment of events. It is suggested that longitudinal research be done to establish the causal relationship of the relationships identified.

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ERRATUM

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